

DSIT Monthly Summary

February, 1997 • Vol 2 Issue 2

Management

Archive

The Archive set several new records for data flow in and out of the system.

1. The gigabytes of data retrieved was 3 times more than the "usual maximum" from the previous 12 months. Approximately 12 GB of data were retrieved in 3 days (about 10 days before the Science Team Meeting).
2. The number of files and MB stored also reached a new maximum. The current rate for both of these parameters is almost double the rate from one year ago.
3. In the past year, the number of files stored has almost doubled and the data volume (GB's) has almost tripled.

The Archive staff continues to be challenged to find ways to make the system more reliable and more efficient.

Science Related

Results of ARM research and use of ARM data were quite evident at the 77th Annual Meeting of the American Meteorological Society in Long Beach, CA, February 3-7, 1997. In particular, ARM efforts were well represented in papers given at the 9th Conference on Atmospheric Radiation. The ARESE IOP was a prominent focus, and was featured on the cover of the conference proceedings. References were made to ARM activities during several of the other specialty conferences as well. The ARM Program and its capabilities have become a reference for atmospheric studies related to clouds and radiation. Research and monitoring activities of other research programs now consider ARM capabilities and sites in their planning. The ARM Program and Unmanned Aerospace Vehicle (UAV) were featured in two exhibits. Several members of the Data and Science Integration Team were in attendance, along with others in the infrastruc-

ture and numerous ARM Science Team members.

The interest in cloud-related data products has intensified with the implementation of the millimeter cloud radar at the ARM Southern Great Plains (SGP) site. Dan Rodriguez and Ric Cederwall met with Brooks Martner, Ken Moran, and Tanneil Uttal, Environmental Technology Laboratory (ETL), to discuss the capabilities of the new cloud radar and cloud products that can be derived from the radar data and related data streams collected at the SGP site. We also discussed the upcoming Cloud Radar IOP (April 1997). Other ETL staff members joined the discussions, as well as Jay Mace from the University of Utah and Jeff Smith from the University of North Dakota. The IOP plans were finalized as much as possible, with action items assigned. Plans were also formulated for developing cloud product algorithms and transferring established algorithms to ARM for operational execution.

Several members of the DSIT have been preparing posters for presentation at the 7th ARM Science Team Meeting in March 1997. Posters involving DSIT members include:

Web Based ARM Satellite and Mesonet Data Viewers

Benedict, L. (a),
Minnett, P. J. (b),
Wagener, R. (a),
Tichler, J. (a), and
Barr-Kumarakulasinghe, S.A. (a)
(a) Brookhaven National Laboratory
(b) University of Miami

Comparison of Objectively-Analyzed SCM Forcing Fields with Assimilated Data from the June 1993 IOP for Various Siting Scenarios

Cederwall, R.T. (a),
Leach, M.J. (a),
Dudhia, J. (b), and
Parsons, D.B. (b)
(a) Lawrence Livermore National Laboratory
(b) National Center for Atmospheric Research

Analysis of Aerosol Data Collected by ARM Aerosol Observing System at Southern Great Plains CART Site

Cheng, M., Oak Ridge National Laboratory

Use of a Nonlinear Dynamic Limit-Cycle Model to Identify Perturbations Embedded in the Surface Energy Flux Data

Cheng, M. and Lawkins, W.F.,
Oak Ridge National Laboratory

Surface Characterization Data for the ARM CART Site

Cialella, A. T. and Sandoval, B.,
Brookhaven National Laboratory

Improvements in the LLNL Objective Analysis Scheme for Deriving Forcing Fields for Single-Column Models Using ARM Data

Leach, M.J., Yio, J.J., and Cederwall, R.T.
Lawrence Livermore National Laboratory

Measurements of the thermal skin effect and diurnal thermocline in the Tropical Western Pacific Ocean

Minnett, P. J. (a) and ,
Knuteson R. O. (b)
(a) *University of Miami*
(b) *University of Wisconsin-Madison*

Spectral Cloud Emissivities from LBLRTM/AERI

Shippert, T.R (a),
Clough, S.A.(b), and
Brown, P.D.(b),
(a) *Pacific Northwest National Laboratory*
(b) *Atmospheric&Environmental Research, Inc.*

The Status of Quality Measurement Experiments in the Microwave, Longwave, and Shortwave

Brown, P.D. (a),
Clough, S.A. (a), Turner, D.D. (b),
Shippert, T.R. (b), Knuteson, R.O. (c),

Revercomb, H.E. (c), and Smith, W.L. (c)
(a) *Atmospheric&Environmental Research, Inc.*
(b) *Pacific Northwest National Laboratory*
(c) *University of Wisconsin-Madison*

ARM External Data Sets Availability and Holdings

Tichler, J.,
Brookhaven National Laboratory

CART Raman Lidar water vapor measurements during the ARM 1996 water vapor IOP

Turner, D.D.(a) and Goldsmith, J.E.M.(b)
(a) *Pacific Northwest National Laboratory*
(b) *Sandia National Laboratories*

Data System Related

Archive

Represented ARM at a GCIP DACOM meeting in Boulder, CO. Discussed data needs, data quality, retrieval statistics for the GCIP project and the UCAR data server. The requirements for ARM data in the next GCIP data package are still under development. Processing of data provided during FY 1996 is just beginning. GCIP will provide ARM with overview data quality statistics after their processing is completed. UCAR does not have specific distribution statistics for the ARM data because the data are made available for several of its programs. The web site for the GCIP/UCAR data system has about 25,000 hits per month and delivers about 100-200 MB of data per day. Most of their web access originates from US education, government, and commercial (primarily AOL) Internet nodes.

Preliminary versions of the data catalog (and related user interface) have been prototyped. The structure of the catalog is being developed in cooperation with DSIT staff from PNNL.

External Data Center

In preparation for changed procedure in reporting entries to the SGP Meta Data System (formerly named the Site Operations Log) completed web page "ReportGenerator" that produces MDS reports on the fly from a predefined list of available report types and the web page "ReportSubscribe" that can be used by the ARM community to "sign up" to receive MDS reports via email on a

regularbasis. See <http://arm3.das.bnl.gov/sisg/soplog.html>

Richard Wagener attended the EO/GEO World Wide Web Workshop '97, February 4-6, 1997. (See <http://ulabhp.gsfc.nasa.gov/~jpals/agenda.html>). His presentation, "Web Based ARM Satellite and Mesonet Data Viewers" by Sereno A. Barr-Kumarakulasinghe, Laurie Benedict, Peter Minnett, Richard Wagener and Joyce Tichler can be seen at <http://www.xdc.arm.gov/~wagener/papers/EOGEO/presentation/>

A draft conceptual design for the SGP Meta Data System was prepared and made available for internal review by the SGP Data Team. See http://arm3.das.bnl.gov/soldoc/SGP_MDS_Design.html

Infrastructure Wide Computing

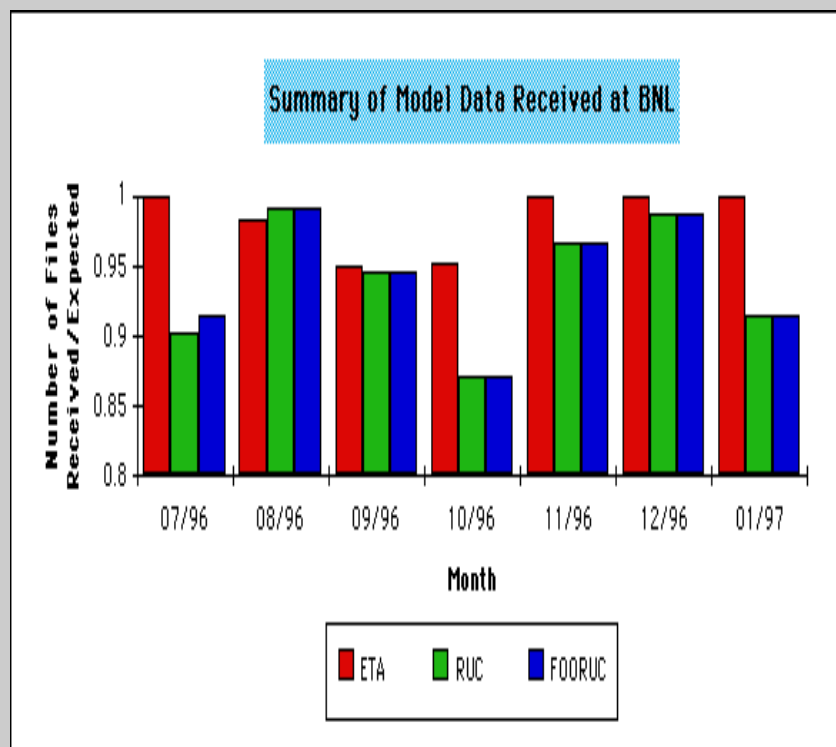
Software and hardware to allow us to remotely power cycle systems has been added. This completes several design requirements for being able to completely manage the ARM infrastructure systems remotely. The hardware has also been identified as a solution for TWP ARCS-2.

Darren Curtis is working with PNNL and ESNET to get the PNNL router replaced so that a T3 network can be installed between PNNL and LLNL. The current schedule is for GTE and SPRINT to install the T3 in April. Developed and deployed software to allow ARM Principal Investigators to submit Research Results using the web. The form allows the investigator to insert text and

images. This information is summarized with other research results from other investigators. The software generates a summary table of new submissions and four other views of all the submissions sorted by Author, Title, Affiliation, and Research Area. The URL for the Research Research Pages is: www.arm.gov/docs/research/science/index.html

Developed and deployed software to allow users to view ARM Mail lists. Users can search for the Mail lists that they currently subscribe to. Future enhancements will include a better mechanism for users to update their information and/or request to be added/deleted from a Mail list. The URL for this software is: www.arm.gov/cgi-bin/email/locate

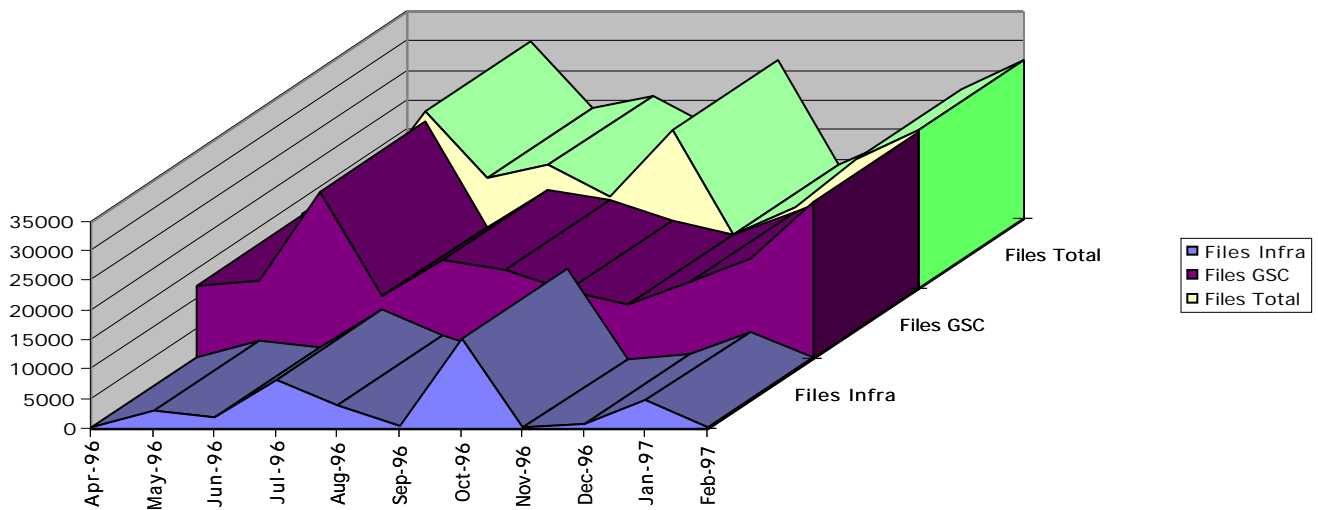
More details on the status and statistics for the External Data Center and other BNL ARM work is available from: <http://arm3.das.bnl.gov/sisg/arm.html>



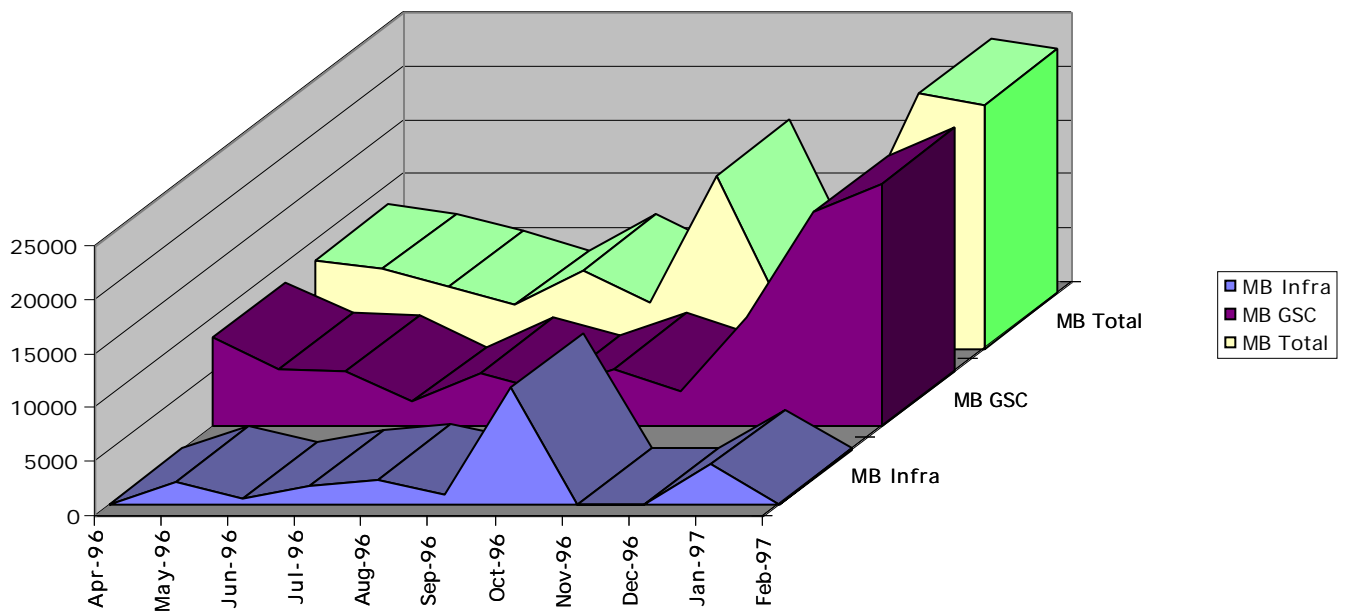
Model Data: ARM acquires analysis (labelled RUC) and forecast (labelled F00RUC) products from the National Centers for Environmental Prediction (NCEP) Rapid Update Cycle (RUC) model and analysis products (labelled ETA) from the NCEP Eta model.

Performance & Statistics

Files Requested From Archive-1996/97



Mbytes requested from Archive



Other Statistics

ARM Archive Stored Volume

As of February 28, 1997 - 1,605,844 files (935 Gigabytes)

Added during February 1997 - 76,819 files added (76,065 MB)